

# Search history

Keys 10/795995

02/27/2006

=> d his

(FILE 'HOME' ENTERED AT 10:24:30 ON 27 FEB 2006)  
FILE 'STNGUIDE' ENTERED AT 10:24:49 ON 27 FEB 2006  
FILE 'REGISTRY' ENTERED AT 10:25:26 ON 27 FEB 2006  
ACT KEYSFLUSTRA/A  
-----  
L1 STR  
L2 11 SEA FILE=REGISTRY SSS FUL L1  
-----  
ACT KEYSFLUSTRB/A  
-----  
L3 STR  
L4 6 SEA FILE=REGISTRY SSS FUL L3  
-----  
FILE 'STNGUIDE' ENTERED AT 10:27:00 ON 27 FEB 2006  
FILE 'REGISTRY' ENTERED AT 10:27:10 ON 27 FEB 2006  
L5 7349854 S S>0  
L6 339026 S O>2 AND F>1 AND L5  
FILE 'STNGUIDE' ENTERED AT 10:30:07 ON 27 FEB 2006  
FILE 'REGISTRY' ENTERED AT 10:58:21 ON 27 FEB 2006  
L7 STRUCTURE UPLOADED  
L8 9 S L7 SAM SSS  
FILE 'STNGUIDE' ENTERED AT 10:59:01 ON 27 FEB 2006  
FILE 'CAPLUS' ENTERED AT 11:01:39 ON 27 FEB 2006  
E US2004-795995/APPS  
L9 1 S US2004-795995/AP  
SEL RN  
FILE 'REGISTRY' ENTERED AT 11:02:53 ON 27 FEB 2006  
L10 8 S E1-E8  
L11 147 S L7 FULL SSS  
SAVE TEMP L11 KEY995STRC/A  
FILE 'CAPLUS' ENTERED AT 11:05:47 ON 27 FEB 2006  
L12 229 S L11  
FILE 'STNGUIDE' ENTERED AT 11:05:57 ON 27 FEB 2006  
FILE 'REGISTRY' ENTERED AT 11:07:05 ON 27 FEB 2006  
L13 STRUCTURE UPLOADED  
L14 0 S L13 SAM SSS SUB=L11  
L15 6 S L13 FULL SSS SUB=L11  
SAVE TEMP L15 KEY995STRD/A  
FILE 'CAPLUS' ENTERED AT 11:09:00 ON 27 FEB 2006  
L16 24 S L15  
FILE 'STNGUIDE' ENTERED AT 11:09:17 ON 27 FEB 2006  
FILE 'REGISTRY' ENTERED AT 11:10:50 ON 27 FEB 2006

L17                   STRUCTURE UPLOADED  
L18                   9 S L17 SAM SSS SUB=L11  
L19                   141 S L17 FULL SSS SUB=L11  
                      SAVE TEMP L19 KEY995STRE/A

FILE 'CAPLUS' ENTERED AT 11:13:27 ON 27 FEB 2006  
L20                   214 S L19  
L21                   9 S L16 AND L20  
L22                   128 S L2  
L23                   24 S L4  
L24                   9 S L22 AND L23  
L25                   18 S L15/PREP  
L26                   121 S L19 (L) (RCT OR RGT OR RACT)/RL  
L27                   8 S L25 AND L26

FILE 'CASREACT' ENTERED AT 11:19:39 ON 27 FEB 2006  
L28                   1 S L19/RRT (L) L15/PRO

FILE 'REGISTRY' ENTERED AT 11:21:52 ON 27 FEB 2006

FILE 'STNGUIDE' ENTERED AT 11:22:52 ON 27 FEB 2006

FILE 'REGISTRY' ENTERED AT 11:25:02 ON 27 FEB 2006  
L29                   E C2BR2F2?/MF  
                      4 S C2BR2F2/MF  
                      E C2CL2F2?/MF  
L30                   8 S C2CL2F2/MF  
                      E C2BRCLF2/MF  
L31                   6 S C2BRCLF2/MF  
L32                   18 S L29-L31

FILE 'CAPLUS' ENTERED AT 11:28:59 ON 27 FEB 2006  
L33                   700 S L32  
L34                   2 S L27 AND L33  
L35                   316 S L32 (L) (RCT OR RGT OR RACT)/RL  
L36                   4 S L25 AND L35  
L37                   2 S L27 AND L36  
L38                   62 S TORTELLI V?/AU  
L39                   18 S CALINI P?/AU  
L40                   5 S MILLEFANTI S?/AU  
L41                   3 S L38 AND L39 AND L40  
L42                   7 S L38 AND L39-L40  
L43                   3 S L39 AND L40  
L44                   1 S L41-L43 AND (L27 OR L34 OR L36)

FILE 'CAPLUS' ENTERED AT 11:34:45 ON 27 FEB 2006

FILE 'REGISTRY' ENTERED AT 11:35:00 ON 27 FEB 2006

FILE 'CAPLUS' ENTERED AT 11:35:04 ON 27 FEB 2006

FILE 'REGISTRY' ENTERED AT 11:35:57 ON 27 FEB 2006

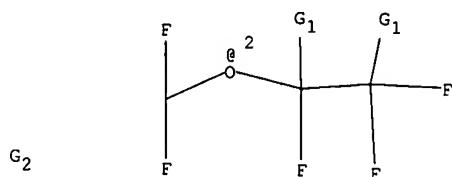
FILE 'CAPLUS' ENTERED AT 11:38:09 ON 27 FEB 2006  
L45                   7 S L41-L44

FILE 'CAPLUS' ENTERED AT 11:40:36 ON 27 FEB 2006  
L46                   9 S (L27 OR L34 OR L36) NOT L45

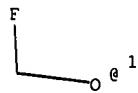
Keys 10/795995

02/27/2006

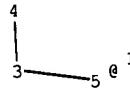
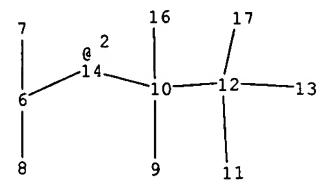
FILE 'CASREACT' ENTERED AT 11:42:52 ON 27 FEB 2006



22



2-----1



chain nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 16 17 22

chain bonds :

1-2 3-4 3-5 6-7 6-8 6-14 9-10 10-12 10-14 10-16 11-12 12-13 12-17

exact/norm bonds :

1-2 3-5 6-14 10-14 10-16 12-17

exact bonds :

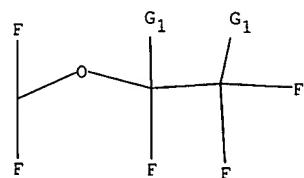
3-4 6-7 6-8 9-10 10-12 11-12 12-13

G1:Cl,Br

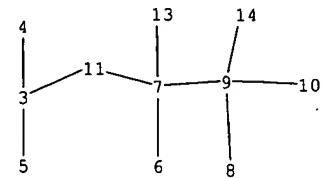
G2:[\*1], [\*2]

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:CLASS  
11:CLASS 12:CLASS 13:CLASS 14:CLASS 16:CLASS 17:CLASS 22:CLASS

F-----SO<sub>2</sub>

2-----1



chain nodes :

1 2 3 4 5 6 7 8 9 10 11 13 14

chain bonds :

1-2 3-4 3-5 3-11 6-7 7-9 7-11 7-13 8-9 9-10 9-14

exact/norm bonds :

1-2 3-11 7-11 7-13 9-14

exact bonds :

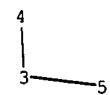
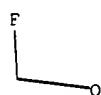
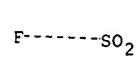
3-4 3-5 6-7 7-9 8-9 9-10

9

G1:C1,Br

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:CLASS  
11:CLASS 13:CLASS 14:CLASS



chain nodes :

1 2 3 4 5

chain bonds :

1-2 3-4 3-5

exact/norm bonds :

1-2 3-5

exact bonds :

3-4

G1:C1,Br

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS

=> file registry  
FILE 'REGISTRY' ENTERED AT 11:35:57 ON 27 FEB 2006  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 26 FEB 2006 HIGHEST RN 875270-69-2  
DICTIONARY FILE UPDATES: 26 FEB 2006 HIGHEST RN 875270-69-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

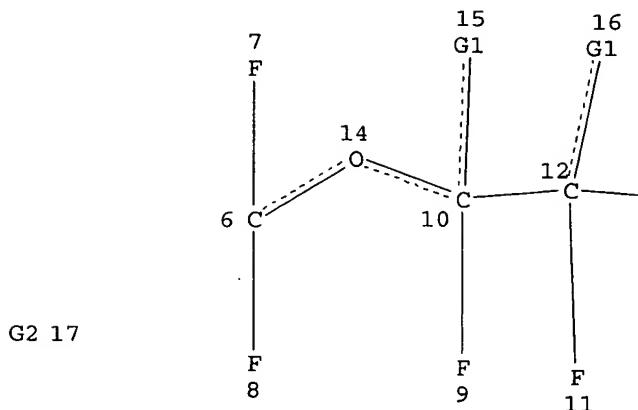
Structure search iteration limits have been increased. See HELP SLIMITS  
for details.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> d stat que L15  
L7 STR

Cl 20Br 21



Page 1-A

— F 13

Page 1-B



Page 2-A

VAR G1=20/21

VAR G2=5/14

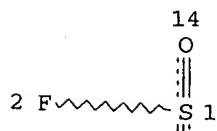
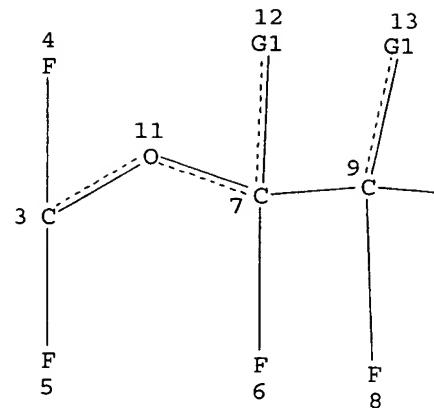
#### NODE ATTRIBUTES:

NSPEC	IS	C	AT	1
NSPEC	IS	C	AT	2
NSPEC	IS	C	AT	3
NSPEC	IS	C	AT	4
NSPEC	IS	C	AT	5
NSPEC	IS	C	AT	6
NSPEC	IS	C	AT	7
NSPEC	IS	C	AT	8
NSPEC	IS	C	AT	9
NSPEC	IS	C	AT	10
NSPEC	IS	C	AT	11
NSPEC	IS	C	AT	12
NSPEC	IS	C	AT	13
NSPEC	IS	C	AT	14

NSPEC IS C AT 15  
 NSPEC IS C AT 16  
 NSPEC IS C AT 17  
 NSPEC IS C AT 18  
 NSPEC IS C AT 19  
 DEFAULT MLEVEL IS ATOM  
 MLEVEL IS CLASS AT 1 2 3 4 5 6 7 8 9 10 11 12 13 14 18 19 20  
 21  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE  
 L11 147 SEA FILE=REGISTRY SSS FUL L7  
 L13 STR  
 Cl 16 Br 17



Page 1-A

— F 10

Page 1-B

||  
O  
15

Page 2-A  
 VAR G1=16/17

## NODE ATTRIBUTES:

NSPEC	IS C	AT	1
NSPEC	IS C	AT	2
NSPEC	IS C	AT	3
NSPEC	IS C	AT	4
NSPEC	IS C	AT	5
NSPEC	IS C	AT	6
NSPEC	IS C	AT	7
NSPEC	IS C	AT	8
NSPEC	IS C	AT	9
NSPEC	IS C	AT	10
NSPEC	IS C	AT	11
NSPEC	IS C	AT	12
NSPEC	IS C	AT	13
NSPEC	IS C	AT	14
NSPEC	IS C	AT	15
DEFAULT MLEVEL IS ATOM			
MLEVEL IS CLASS AT 1 2 3 4 5 6 7 8 9 10 11 14 15 16 17			
DEFAULT ECLEVEL IS LIMITED			

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 17

## STEREO ATTRIBUTES: NONE

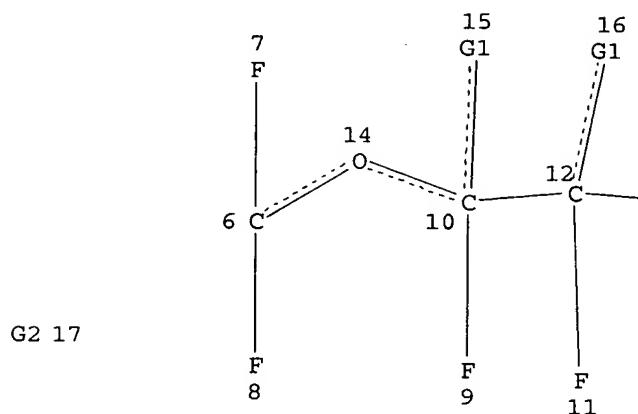
L15 6 SEA FILE=REGISTRY SUB=L11 SSS FUL L13

100.0% PROCESSED 12 ITERATIONS  
SEARCH TIME: 00.00.01

6 ANSWERS

=> d stat que L19  
L7 STR

Cl 20 Br 21



Page 1-A

— F 13

Page 1-B



Page 2-A

VAR G1=20/21

VAR G2=5/14

NODE ATTRIBUTES:

NSPEC	IS C	AT	1
NSPEC	IS C	AT	2
NSPEC	IS C	AT	3
NSPEC	IS C	AT	4
NSPEC	IS C	AT	5
NSPEC	IS C	AT	6
NSPEC	IS C	AT	7
NSPEC	IS C	AT	8
NSPEC	IS C	AT	9
NSPEC	IS C	AT	10
NSPEC	IS C	AT	11
NSPEC	IS C	AT	12
NSPEC	IS C	AT	13
NSPEC	IS C	AT	14

NSPEC IS C AT 15  
 NSPEC IS C AT 16  
 NSPEC IS C AT 17  
 NSPEC IS C AT 18  
 NSPEC IS C AT 19  
 DEFAULT MLEVEL IS ATOM  
 MLEVEL IS CLASS AT 1 2 3 4 5 6 7 8 9 10 11 12 13 14 18 19 20  
 21  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE  
 L11 147 SEA FILE=REGISTRY SSS FUL L7  
 L17 STR



NODE ATTRIBUTES:  
 NSPEC IS C AT 1  
 NSPEC IS C AT 2  
 NSPEC IS C AT 3  
 NSPEC IS C AT 4  
 NSPEC IS C AT 5  
 NSPEC IS C AT 6  
 NSPEC IS C AT 7  
 DEFAULT MLEVEL IS ATOM  
 MLEVEL IS CLASS AT 1 2 3 4 5 6 7  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE  
 L19 141 SEA FILE=REGISTRY SUB=L11 SSS FUL L17

100.0% PROCESSED 147 ITERATIONS 141 ANSWERS  
 SEARCH TIME: 00.00.01

=> file caplus  
 FILE 'CAPLUS' ENTERED AT 11:38:09 ON 27 FEB 2006  
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AUTHOR  
 SEARCH

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FILE COVERS 1907 - 27 Feb 2006 VOL 144 ISS 10  
 FILE LAST UPDATED: 26 Feb 2006 (20060226/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>  
 'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

=> d que nos L41  
 L38 62 SEA FILE=CAPLUS ABB=ON PLU=ON TORTELLI V?/AU  
 L39 18 SEA FILE=CAPLUS ABB=ON PLU=ON CALINI P?/AU  
 L40 5 SEA FILE=CAPLUS ABB=ON PLU=ON MILLEFANTI S?/AU  
 L41 3 SEA FILE=CAPLUS ABB=ON PLU=ON L38 AND L39 AND L40

=> d que nos L42  
 L38 62 SEA FILE=CAPLUS ABB=ON PLU=ON TORTELLI V?/AU  
 L39 18 SEA FILE=CAPLUS ABB=ON PLU=ON CALINI P?/AU  
 L40 5 SEA FILE=CAPLUS ABB=ON PLU=ON MILLEFANTI S?/AU  
 L42 7 SEA FILE=CAPLUS ABB=ON PLU=ON L38 AND (L39 OR L40)

=> d que nos L43  
 L39 18 SEA FILE=CAPLUS ABB=ON PLU=ON CALINI P?/AU  
 L40 5 SEA FILE=CAPLUS ABB=ON PLU=ON MILLEFANTI S?/AU  
 L43 3 SEA FILE=CAPLUS ABB=ON PLU=ON L39 AND L40

=> d que nos L44  
 L7 STR  
 L11 147 SEA FILE=REGISTRY SSS FUL L7  
 L13 STR  
 L15 6 SEA FILE=REGISTRY SUB=L11 SSS FUL L13  
 L17 STR  
 L19 141 SEA FILE=REGISTRY SUB=L11 SSS FUL L17  
 L25 18 SEA FILE=CAPLUS ABB=ON PLU=ON L15/PREP  
 L26 121 SEA FILE=CAPLUS ABB=ON PLU=ON L19 (L) (RCT OR RGT OR  
 RACT) /RL  
 L27 8 SEA FILE=CAPLUS ABB=ON PLU=ON L25 AND L26  
 L29 4 SEA FILE=REGISTRY ABB=ON PLU=ON C2BR2F2/MF  
 L30 8 SEA FILE=REGISTRY ABB=ON PLU=ON C2CL2F2/MF  
 L31 6 SEA FILE=REGISTRY ABB=ON PLU=ON C2BRCLF2/MF  
 L32 18 SEA FILE=REGISTRY ABB=ON PLU=ON (L29 OR L30 OR L31)  
 L33 700 SEA FILE=CAPLUS ABB=ON PLU=ON L32  
 L34 2 SEA FILE=CAPLUS ABB=ON PLU=ON L27 AND L33  
 L35 316 SEA FILE=CAPLUS ABB=ON PLU=ON L32 (L) (RCT OR RGT OR  
 RACT) /RL  
 L36 4 SEA FILE=CAPLUS ABB=ON PLU=ON L25 AND L35  
 L38 62 SEA FILE=CAPLUS ABB=ON PLU=ON TORTELLI V?/AU

L39 18 SEA FILE=CAPLUS ABB=ON PLU=ON CALINI P?/AU  
 L40 5 SEA FILE=CAPLUS ABB=ON PLU=ON MILLEFANTI S?/AU  
 L41 3 SEA FILE=CAPLUS ABB=ON PLU=ON L38 AND L39 AND L40  
 L42 7 SEA FILE=CAPLUS ABB=ON PLU=ON L38 AND (L39 OR L40)  
 L43 3 SEA FILE=CAPLUS ABB=ON PLU=ON L39 AND L40  
 L44 1 SEA FILE=CAPLUS ABB=ON PLU=ON (L41 OR L42 OR L43) AND (L27  
 OR L34 OR L36)

=> s L41-L44  
 L45 7 (L41 OR L42 OR L43 OR L44)

=> d ibib abs hitind hitstr L45 1-7

L45 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:731664 CAPLUS  
 DOCUMENT NUMBER: 143:172544  
 TITLE: Preparation of halofluoroethers  
 INVENTOR(S): Tortelli, Vito; Millefanti, Stefano  
 ; Calini, Pierangelo  
 PATENT ASSIGNEE(S): Solvay Solexis S.P.A., Italy  
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005213256	A2	20050811	JP 2005-21842	20050128
EP 1566374	A1	20050824	EP 2005-1389	20050125
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				

PRIORITY APPLN. INFO.: IT 2004-MI132 A 20040129

OTHER SOURCE(S): CASREACT 143:172544; MARPAT 143:172544

AB (R1)nCR'FmOCAFCA'F2 [I; A, A' = Cl, Br, H; m = 1, 2; n = 0, 1; R1 = F-  
 substituted C1-20 alkyl, C3-7 cycloalkyl, C6-10 arylalkyl, C5-10  
 heterocyclyl, etc.; R' = (RI)pT; RI = F-substituted C1-20 alkylene, C3-7  
 cycloalkylene; p = 0, 1; T = C(R2)tFrOCAFCA'F2, C(O)(R2)n'Fu'; r = 1, 2;  
 t, n', u' = 0, 1; R2 = same as R1] are prepared by reaction of  
 (R1)nC(O)R'aFu [R1, n = same as I; u = 0, 1; R'a = (RI)pQ; RI, p = same as  
 I; Q = C(O)(R2)n'Fu'; n', u', R2 = same as I] with F and ACF:CA'F2 (sic)  
 (A, A' = same as above) at -120 to -20°, preferably -100 to  
 -40°, in the presence of inert solvents. Dehalogenation or  
 dehydrohalogenation of I gives fluorovinyl ether monomers for  
 fluoropolymers. FCO(CF2)6COF was treated with F and CFC 1112 in CFC13 at  
 -40° to give ClCF2CFC10(CF2)7COF and ClCF2CFC10(CF2)8OCFC1CF2Cl  
 with 47.7 and 5.6% selectivity, resp.

IC ICM C07C041-05  
 ICS C07C041-24; C07C043-12; C07C043-17

CC 23-9 (Aliphatic Compounds)  
 Section cross-reference(s): 35

L45 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:698418 CAPLUS  
 DOCUMENT NUMBER: 143:173611  
 TITLE: Process for preparing fluorohalogenethers

INVENTOR(S) : **Tortelli, Vito; Millefanti, Stefano**  
; **Calini, Pierangelo**  
PATENT ASSIGNEE(S) : **Solvay Solexis S.P.A., Italy**  
SOURCE: **U.S. Pat. Appl. Publ., 7 pp.**  
CODEN: **USXXCO**  
DOCUMENT TYPE: **Patent**  
LANGUAGE: **English**  
FAMILY ACC. NUM. COUNT: **1**  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005171388	A1	20050804	US 2005-44022	20050128
EP 1568676	A1	20050831	EP 2005-1390	20050125
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
JP 2005213255	A2	20050811	JP 2005-21839	20050128
PRIORITY APPLN. INFO.:			IT 2004-MI133	A 20040129

OTHER SOURCE(S) : **MARPAT 143:173611**  
AB A process for preparing (per)fluorohalogenethers having general formula:  $(R')nC(CFX_1(CF_2)_z(CH_2)_z'OR)(F)_mOCAFCA'F_2$ ; wherein: A,A' = Cl, Br,H; m = 1, 2; n = 0, 1; R' = C1-3 (per)fluoroalkyl substituent; R = (per)fluoropolyether substituent; z, z' = 0, 1; X1 = F, CF3; by reaction of carbonyl compds. having formula:  $(R')nC(O)(F)_q(CF_2OR_1)$ ; wherein q = 0, 1; RI = (per)fluoro-polyether substituent; in liquid phase, with elemental fluorine and with olefinic compds. of formula; CAF:CA'F2; at temps. from -120° C. to -20° C., preferably from -100° C. to -40° C.

IC ICM C07C041-16

INCL 568677000

CC 35-8 (Chemistry of Synthetic High Polymers)

L45 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2004:753175 CAPLUS  
DOCUMENT NUMBER: 141:260266  
TITLE: Process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes  
INVENTOR(S) : **Tortelli, Vito; Calini, Pierangelo**  
; **Millefanti, Stefano**  
PATENT ASSIGNEE(S) : **Solvay Solexis S.p.A., Italy**  
SOURCE: **Eur. Pat. Appl., 8 pp.**  
CODEN: **EPXXDW**  
DOCUMENT TYPE: **Patent**  
LANGUAGE: **English**  
FAMILY ACC. NUM. COUNT: **1**  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1457484	A1	20040915	EP 2004-4344	20040226
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004269535	A2	20040930	JP 2004-65994	20040309
US 2004199009	A1	20041007	US 2004-795995	20040310
CN 1539818	A	20041027	CN 2004-10033085	20040311
PRIORITY APPLN. INFO.:			IT 2003-MI444	A 20030311
OTHER SOURCE(S) :	CASREACT 141:260266; MARPAT 141:260266			

AB A process for preparing (per)fluorohalogen ethers containing the sulfonyl fluoride group  $\text{FSO}_2\text{RCF}_2\text{OCFCA}_1\text{F}_2$  [A, A1 = Cl, Br; R = (per)fluorinated optionally containing one or more oxygen atoms] is described which comprises the reaction of acyl fluorides  $\text{FSO}_2\text{RCOF}$  in the liquid phase with elemental fluorine and with olefinic compds.  $\text{CAF:CA}_1\text{F}$  at  $-120^\circ$  to  $-20^\circ$ , optionally in the presence of a solvent inert under the reaction conditions.

IC ICM C07C303-22  
ICS C07C309-82

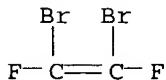
CC 23-12 (Aliphatic Compounds)  
Section cross-reference(s): 45

IT 76-15-3, cfc 115 359-21-7 598-88-9,  
1,2-Dichloro-1,2-difluoroethylene 677-67-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes)

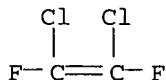
IT 144728-59-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes)

IT 359-21-7 598-88-9, 1,2-Dichloro-1,2-difluoroethylene  
677-67-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes)

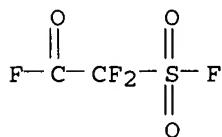
RN 359-21-7 CAPLUS  
CN Ethene, 1,2-dibromo-1,2-difluoro- (9CI) (CA INDEX NAME)



RN 598-88-9 CAPLUS  
CN Ethene, 1,2-dichloro-1,2-difluoro- (9CI) (CA INDEX NAME)

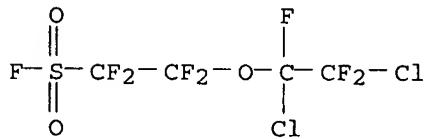


RN 677-67-8 CAPLUS  
CN Acetyl fluoride, difluoro(fluorosulfonyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 144728-59-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes)

RN 144728-59-6 CAPLUS  
 CN Ethanesulfonyl fluoride, 2-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:680320 CAPLUS  
 DOCUMENT NUMBER: 141:190507  
 TITLE: Preparation of fluorohaloethyl ethers as intermediates for fluorovinyl ethers  
 INVENTOR(S): Tortelli, Vito; Calini, Pierangelo  
 PATENT ASSIGNEE(S): Solvay Solexis S.P.A., Italy  
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004231657	A2	20040819	JP 2004-24100	20040130
EP 1454940	A2	20040908	EP 2004-1633	20040127
EP 1454940	A3	20050608		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CA 2456406	AA	20040730	CA 2004-2456406	20040129
US 2004186324	A1	20040923	US 2004-766215	20040129
PRIORITY APPLN. INFO.:			IT 2003-MI150	A 20030130

OTHER SOURCE(S): CASREACT 141:190507; MARPAT 141:190507  
 AB R'CF2OCAFCA'F2 [A, A' = H, Cl, Br; A = A' ≠ H; R' = OR, RfT; R = (per)fluorinated C1-20 alkyl, C3-7 cycloalkyl, aromatic group, etc.; Rf = perfluoroxyalkylene; T = OCF2OCFACA'F2, OCF2X; X = F, CF3, Cl] are prepared by reaction of R''COF (R'' = RO, RfQ; Q = O2CF, OCF2X; R, Rf, X = same as above) with F and CAF:CA'F (A, A' = same as above) in liquid phases at -120 to -20°, preferably -100 to -40°, optionally in inert solvents. Q(CF2CF2O)t(CF2O)pCOF (Q = OCF3 or O2CF, p/t = 0.2, average mol. weight 476) was treated with CFC 112 and F at -100° to give T(CF2CF2O)t(CF2O)pCF2OCFC1CF2Cl (T = OCF3, OCF2OCFC1CF2Cl).

IC ICM C07C041-24  
 ICS C07C041-22; C07C043-12; C07C043-17  
 CC 23-9 (Aliphatic Compounds)  
 Section cross-reference(s): 35

L45 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:117245 CAPLUS  
 DOCUMENT NUMBER: 140:165780  
 TITLE: Process for preparing fluorohalogen ethers from perfluorocarbonyl compounds and alkenes and fluorine

INVENTOR(S): **Tortelli, Vito; Calini, Pierangelo**  
 PATENT ASSIGNEE(S): **Solvay Solexis S.P.A., Italy**  
 SOURCE: **Eur. Pat. Appl., 9 pp.**  
 CODEN: **EPXXDW**

DOCUMENT TYPE: **Patent**  
 LANGUAGE: **English**  
 FAMILY ACC. NUM. COUNT: **1**  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1388531	A1	20040211	EP 2003-17180	20030729
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004067693	A2	20040304	JP 2003-286161	20030804
US 2004030146	A1	20040212	US 2003-633565	20030805
US 6835856	B2	20041228		
CN 1488616	A	20040414	CN 2003-158037	20030806
IT 2002-MI1782 A 20020806				

PRIORITY APPLN. INFO.: **MARPAT 140:165780**  
 OTHER SOURCE(S): **AB Fluorohalogen ethers (e.g., F<sub>3</sub>COCFClCF<sub>2</sub>Cl) are prepared in high yield and selectivity from perfluorocarbonyl compds. [e.g., FC(:O)F] and alkenes (e.g., chloropentafluoroethane) and fluorine.**  
 IC **ICM C07C041-01**  
 ICS **C07C041-06; C07C043-12**  
 CC **45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)**  
 Section cross-reference(s): **23**  
 REFERENCE COUNT: **6** THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: **2002:866692 CAPLUS**  
 DOCUMENT NUMBER: **137:353529**  
 TITLE: **Amorphous perfluorinated copolymers useful for optical applications particularly optical fibers**  
 INVENTOR(S): **Apostolo, Marco; Triulzi, Francesco; Arcella, Vincenzo; Tortelli, Vito; Calini, Pierangelo**  
 PATENT ASSIGNEE(S): **Ausimont S.p.A., Italy**  
 SOURCE: **Eur. Pat. Appl., 16 pp.**  
 CODEN: **EPXXDW**  
 DOCUMENT TYPE: **Patent**  
 LANGUAGE: **English**  
 FAMILY ACC. NUM. COUNT: **2**  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1256592	A1	20021113	EP 2002-9935	20020503
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002177667	A1	20021128	US 2002-139645	20020507
US 6809166	B2	20041026		
JP 2003040938	A2	20030213	JP 2002-131704	20020507
US 2005009944	A1	20050113	US 2004-913539	20040809
US 6936668	B2	20050830		
IT 2001-MI921 A 20010507				
IT 2002-MI833 A 20020419				
US 2002-139645 A3 20020507				

AB The invention relates to amorphous perfluorinated copolymers comprising cyclic perfluorinated units deriving from at least two different perfluorinated comonomers, optionally with units deriving from a perfluorinated monomer containing at least one olefinic unsatn. (perfluoroolefin), or comprising cyclic perfluorinated units and units deriving from a perfluorinated monomer containing at least one olefinic unsatn., said perfluorinated copolymers having the following combination of properties: substantial absence of unstable polar end groups, polymer Tg higher than 120°, narrow monomeric composition distribution. Thus, a typical perfluorinated copolymer was obtained from 2,2,4-trifluoro-5-trifluoromethyl-1,3-dioxole and tetrafluoroethylene.

IC ICM C08F008-22  
ICS G02B001-04

CC 35-4 (Chemistry of Synthetic High Polymers)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:866691 CAPLUS

DOCUMENT NUMBER: 137:353528

TITLE: Amorphous (per)fluorinated polymers for use in semiconductor devices

INVENTOR(S): Tortelli, Vito; Calini, Pierangelo

PATENT ASSIGNEE(S): Ausimont S.p.A., Italy

SOURCE: Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1256591	A1	20021113	EP 2002-9416	20020425
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2002348315	A2	20021204	JP 2002-130765	20020502
US 2002183459	A1	20021205	US 2002-136424	20020502
US 6828388	B2	20041207		
US 2005009944	A1	20050113	US 2004-913539	20040809
US 6936668	B2	20050830		
PRIORITY APPLN. INFO.:			IT 2001-MI921	A 20010507
			IT 2002-MI833	A 20020419
			US 2002-139645	A3 20020507

AB The invention relates to amorphous (per)fluorinated polymers containing <0.05 mmol/kg-polymer of each of the following unstable ionic end groups: COF, COOH, their amidic derivs., esters or salts as determined by IR spectroscopy using Nicolet Nexus FT-IR equipment (256 scannings, resolution 2 cm<sup>-1</sup>). The polymers have a high transparency at wave lengths from 150 to 250 nm. Therefore said polymers are useful for achieving protective films in the production of semiconductors by means of microlithog. techniques at 248 nm, 193 nm and 157 nm. An object of the present invention is a process for preparing the amorphous (per)fluorinated polymers with low content or substantially free from ionic end group, by treatment with elementary fluorine, optionally in admixt. with inert gases, in a solvent inert to fluorination, in the presence of UV radiations having wave length from 200 to 500 nm, operating at temps. lower than 100°.

IC ICM C08F008-22  
ICS G02B001-04

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 76

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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=&gt; d que nos L27

L7	STR
L11	147 SEA FILE=REGISTRY SSS FUL L7
L13	STR
L15	6 SEA FILE=REGISTRY SUB=L11 SSS FUL L13
L17	STR
L19	141 SEA FILE=REGISTRY SUB=L11 SSS FUL L17
L25	18 SEA FILE=CPLUS ABB=ON PLU=ON L15/PREP
L26	121 SEA FILE=CPLUS ABB=ON PLU=ON L19 (L) (RCT OR RGT OR RACT)/RL
L27	8 SEA FILE=CPLUS ABB=ON PLU=ON L25 AND L26

=&gt; d que nos L34

L7	STR
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L13	STR
L15	6 SEA FILE=REGISTRY SUB=L11 SSS FUL L13
L17	STR
L19	141 SEA FILE=REGISTRY SUB=L11 SSS FUL L17
L25	18 SEA FILE=CPLUS ABB=ON PLU=ON L15/PREP
L26	121 SEA FILE=CPLUS ABB=ON PLU=ON L19 (L) (RCT OR RGT OR RACT)/RL
L27	8 SEA FILE=CPLUS ABB=ON PLU=ON L25 AND L26
L29	4 SEA FILE=REGISTRY ABB=ON PLU=ON C2BR2F2/MF
L30	8 SEA FILE=REGISTRY ABB=ON PLU=ON C2CL2F2/MF
L31	6 SEA FILE=REGISTRY ABB=ON PLU=ON C2BRCLF2/MF

L32 18 SEA FILE=REGISTRY ABB=ON PLU=ON (L29 OR L30 OR L31)  
 L33 700 SEA FILE=CAPLUS ABB=ON PLU=ON L32  
 L34 2 SEA FILE=CAPLUS ABB=ON PLU=ON L27 AND L33

=> d que nos L36  
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 L11 147 SEA FILE=REGISTRY SSS FUL L7  
 L13 STR  
 L15 6 SEA FILE=REGISTRY SUB=L11 SSS FUL L13  
 L25 18 SEA FILE=CAPLUS ABB=ON PLU=ON L15/PREP  
 L29 4 SEA FILE=REGISTRY ABB=ON PLU=ON C2BR2F2/MF  
 L30 8 SEA FILE=REGISTRY ABB=ON PLU=ON C2CL2F2/MF  
 L31 6 SEA FILE=REGISTRY ABB=ON PLU=ON C2BRCLF2/MF  
 L32 18 SEA FILE=REGISTRY ABB=ON PLU=ON (L29 OR L30 OR L31)  
 L35 316 SEA FILE=CAPLUS ABB=ON PLU=ON L32 (L) (RCT OR RGT OR  
 RACT)/RL  
 L36 4 SEA FILE=CAPLUS ABB=ON PLU=ON L25 AND L35

=> s (L27 or L34 or L36) not L45  
 L46 9 (L27 OR L34 OR L36) NOT L45 *printed with author search*

=> d ibib abs hitind hitstr L46 1-9

L46 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:668857 CAPLUS  
 DOCUMENT NUMBER: 142:59591  
 TITLE: Synthesis of 3,6-dioxa- $\Delta$ 7-4-trifluoromethyl  
 perfluoroctyl trifluoromethyl sulfonimide:  
 bis[(perfluoroalkyl)sulfonyl] superacid monomer and  
 polymer  
 AUTHOR(S): Thomas, Brian H.; Shafer, Gregory; Ma, Jing Ji; Tu,  
 Ming-Hu; DesMarteau, Darryl D.  
 CORPORATE SOURCE: H.L. Hunter Hall Chemistry Laboratory, Chemistry  
 Department, Clemson University, Clemson, SC,  
 29634-1905, USA  
 SOURCE: Journal of Fluorine Chemistry (2004), 125(8),  
 1231-1240  
 CODEN: JFLCAR; ISSN: 0022-1139  
 PUBLISHER: Elsevier B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB A new type of ion exchange polymer, bis[(perfluoroalkyl)sulfonyl]imide  
 ionomers (PFSI), were developed by the copolymer. of sodium  
 3,6-dioxa- $\Delta$ 7-4-trifluoromethyl perfluoroctyl trifluoromethyl  
 sulfonimide with tetrafluoroethylene (TFE) using an aqueous redox initiation  
 system in an emulsion type polymerization. These polymers were prepared in  
 various  
 equivalent wts. and processed into functional membranes. The new ionomers  
 exhibit excellent chemical and thermal stability. The materials have high  
 potential for electrochem. applications especially as solid polymer  
 electrolytes  
 (SPE) in proton exchange membrane (PEM) fuel cells.  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 35, 38  
 IT 677-67-8P, Fluorosulfonyldifluoroacetyl fluoride  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR  
 (Purification or recovery); PYP (Physical process); RCT (Reactant)

: SPN (Synthetic preparation); PREP (Preparation); PROC (Process);  
**RACT (Reactant or reagent)**

(compound 4; synthesis of 3,6-dioxa- $\Delta$ 7-4-trifluoromethyl perfluoroctyl trifluoromethyl sulfonimide, bis[(perfluoroalkyl)sulfonyl] superacid monomer and polymer)

IT 64346-22-1P 78010-39-6P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); RCT (Reactant)

: SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(compound 9; synthesis of 3,6-dioxa- $\Delta$ 7-4-trifluoromethyl perfluoroctyl trifluoromethyl sulfonimide, bis[(perfluoroalkyl)sulfonyl] superacid monomer and polymer)

IT 677-67-8P, Fluorosulfonyldifluoroacetyl fluoride

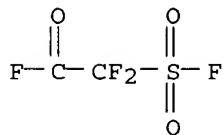
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); RCT (Reactant)

: SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(compound 4; synthesis of 3,6-dioxa- $\Delta$ 7-4-trifluoromethyl perfluoroctyl trifluoromethyl sulfonimide, bis[(perfluoroalkyl)sulfonyl] superacid monomer and polymer)

RN 677-67-8 CAPLUS

CN Acetyl fluoride, difluoro(fluorosulfonyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 64346-22-1P 78010-39-6P

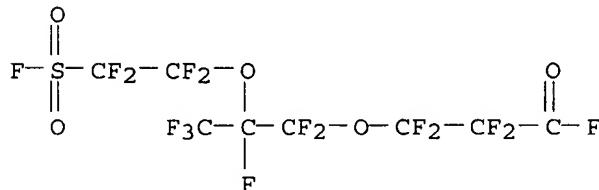
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); RCT (Reactant)

: SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(compound 9; synthesis of 3,6-dioxa- $\Delta$ 7-4-trifluoromethyl perfluoroctyl trifluoromethyl sulfonimide, bis[(perfluoroalkyl)sulfonyl] superacid monomer and polymer)

RN 64346-22-1 CAPLUS

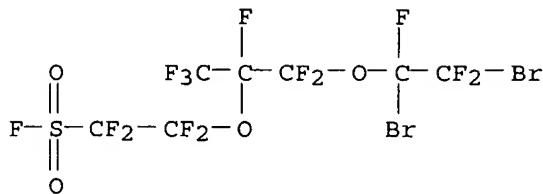
CN Propanoyl fluoride, 2,2,3,3-tetrafluoro-3-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]propoxy]- (9CI) (CA INDEX NAME)



RN 78010-39-6 CAPLUS

CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2-tetrafluoroethoxy]-1,1,2,2-

tetrafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

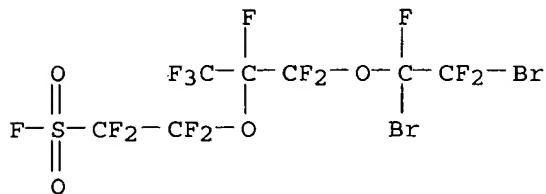
L46 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:289553 CAPLUS  
 DOCUMENT NUMBER: 140:321901  
 TITLE: Unsaturated fluorohydrocarbyl fluoroalkylsulfonates as substitutes for unsaturated fluoroalkylsulfonyl fluorides, and their manufacture  
 INVENTOR(S): Uematsu, Nobuyuki; Hoshi, Nobuto; Koga, Takehiro; Gronvald, Oliver; Ikeda, Masanori  
 PATENT ASSIGNEE(S): Asahi Kasei Corporation, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004107313	A2	20040408	JP 2002-350246	20021202
PRIORITY APPLN. INFO.:			JP 2002-215050	A 20020724
OTHER SOURCE(S):	MARPAT 140:321901			
AB	The fluorosulfonates, useful as monomers for separators for fuel cells and electrolysis of NaCl, etc., are $\text{CF}_2:\text{CF}[\text{OCF}_2\text{CF}(\text{CF}_3)]_n\text{O}(\text{CF}_2)_m\text{SO}_3\text{Rf}$ (I; Rf = fluorohydrocarbyl, $m = 1-5$ ; $n = 0-2$ ). Thus, $\text{CF}_2:\text{CFOCF}_2\text{CF}_2\text{SO}_3\text{H}$ was treated with $\text{CH}_2:\text{CF}_2$ to give I (Rf = $\text{CF}_2\text{Me}$ , $m = 2$ , $n = 0$ ).			
IC	ICM C07C309-10			
CC	ICS C07C303-28; C08F016-30			
CC	35-2 (Chemistry of Synthetic High Polymers)			
IT	Section cross-reference(s): 23, 52, 72			
IT	78010-39-6P 111173-24-1P 677315-21-8P 677315-22-9P			
	677315-24-1P 677315-25-2P 677315-27-4P 677315-28-5P 677315-31-0P			
	677315-32-1P 677315-33-2P 677315-34-3P			
IT	RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)			
	(manufacture of unsatd. fluorohydrocarbyl fluoroalkylsulfonates as monomers for separators for fuel cells and electrolysis of NaCl)			
IT	75-38-7, Vinylidene fluoride 75-89-8, 2,2,2-Trifluoroethanol 76-37-9			
	920-66-1 4089-57-0 16090-14-5 26953-98-0			
IT	RL: RCT (Reactant); RACT (Reactant or reagent)			
	(manufacture of unsatd. fluorohydrocarbyl fluoroalkylsulfonates as monomers for separators for fuel cells and electrolysis of NaCl)			
IT	78010-39-6P			
	RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)			

(manufacture of unsatd. fluorohydrocarbyl fluoroalkylsulfonates as monomers for separators for fuel cells and electrolysis of NaCl)

RN 78010-39-6 CAPLUS

CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



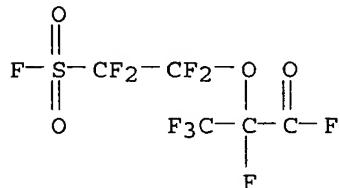
IT 4089-57-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of unsatd. fluorohydrocarbyl fluoroalkylsulfonates as monomers for separators for fuel cells and electrolysis of NaCl)

RN 4089-57-0 CAPLUS

CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]- (9CI) (CA INDEX NAME)



L46 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:52798 CAPLUS

DOCUMENT NUMBER: 140:111029

TITLE: Preparation of fluorine-containing fluorosulfonylalkyl vinyl ether

INVENTOR(S): Mangai, Akiya; Otsuka, Tatsuya; Ichihara, Kazuyoshi; Sugiyama, Akihira

PATENT ASSIGNEE(S): Daikin Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

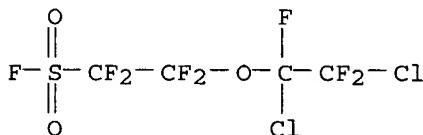
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004018429	A2	20040122	JP 2002-173695	20020614
PRIORITY APPLN. INFO.:			JP 2002-173695	20020614

OTHER SOURCE(S): MARPAT 140:111029

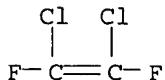
AB CF<sub>2</sub>:CFOCF<sub>2</sub>CF<sub>2</sub>SO<sub>2</sub>F (I), useful as a material for ion exchange membranes, is prepared by (i) treating CFCl:CFCl with MOCF<sub>2</sub>CF<sub>2</sub>SO<sub>2</sub>F (M = alkali metal) and I<sub>2</sub> or Br<sub>2</sub>, (ii) treating the resulting XCFClCFClOCF<sub>2</sub>CF<sub>2</sub>SO<sub>2</sub>F (II; X = I,

Br) with F<sub>2</sub>, and (iii) dechlorinating the resulting ClCF<sub>2</sub>CFC1OCF<sub>2</sub>CF<sub>2</sub>SO<sub>2</sub>F (III).  $\beta$ -Sultone was continuously fed to a mixture of MeCN and Clocat F (KF) at 20° over 1 h and the reaction mixture was further stirred for 60 min. The reaction mixture was autoclaved with I<sub>2</sub> and CFC<sub>1</sub>:CFC<sub>1</sub> at 50° for 12 h to give 60% II (X = iodine), which was continuously fed to a reactor containing perfluorohexane under reflux at 57° while feeding F (diluted with N<sub>2</sub>) for 11 h to give III at 90% selectivity and 95% conversion. III was added dropwise to a mixture of Zn, N-methyl-2-pyrrolidinone, and Br at  $\leq$ 35° and the reaction mixture was further heated to 125° over 2 h to give I at overall yield 80%.

IC ICM C07C303-22  
 ICS C07C309-82  
 CC 23-9 (Aliphatic Compounds)  
 IT 81439-24-9P 144728-59-6P 647828-20-4P  
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of perfluoro(fluorosulfonylethyl vinyl ether) from CFC<sub>1</sub>:CFC<sub>1</sub>)  
 IT 598-88-9, 1,2-Dichloro-1,2-difluoroethylene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of perfluoro(fluorosulfonylethyl vinyl ether) from CFC<sub>1</sub>:CFC<sub>1</sub>)  
 IT 144728-59-6P  
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of perfluoro(fluorosulfonylethyl vinyl ether) from CFC<sub>1</sub>:CFC<sub>1</sub>)  
 RN 144728-59-6 CAPLUS  
 CN Ethanesulfonyl fluoride, 2-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



IT 598-88-9, 1,2-Dichloro-1,2-difluoroethylene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of perfluoro(fluorosulfonylethyl vinyl ether) from CFC<sub>1</sub>:CFC<sub>1</sub>)  
 RN 598-88-9 CAPLUS  
 CN Ethene, 1,2-dichloro-1,2-difluoro- (9CI) (CA INDEX NAME)



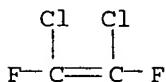
L46 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2003:163674 CAPLUS  
 DOCUMENT NUMBER: 138:169855  
 TITLE: Process for the synthesis of perfluorosulfonylalkyl hypofluorites  
 INVENTOR(S): Navarrini, Walter  
 PATENT ASSIGNEE(S): Ausimont S.p.A., Italy  
 SOURCE: Ital. Appl., 25 pp.  
 CODEN: ITXXCZ  
 DOCUMENT TYPE: Patent

LANGUAGE: Italian

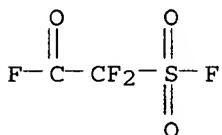
FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IT 2000MI1846	A1	20020208	IT 2000-MI1846	20000808
IT 1318672	B1	20030827		
PRIORITY APPLN. INFO.:			IT 2000-MI1846	20000808
OTHER SOURCE(S):		CASREACT 138:169855; MARPAT 138:169855		
AB	Hypofluorites $\text{FSO}_2\text{-Rf-CF}_2\text{OF}$ [Rf = $\text{CF}_2$ , $\text{CF}_2\text{CF}_2$ , $\text{CF}(\text{CF}_3)$ , $\text{CF}_2\text{CF}_2\text{OCF}(\text{CF}_3)$ ] were prepared by fluorination of acyl fluorides $\text{FSO}_2\text{-Rf-COF}$ or corresponding sultones [when Rf = $\text{CF}_2$ , $\text{OCF}(\text{CF}_3)$ ] over a supported CsF or KF catalyst. Thus, fluorination of perfluoropropene sultone (2 mmol) with 4 mmol $\text{F}_2$ over a CsF/NaF catalyst (1 h at 200 mbar and room temperature) yielded $\text{FSO}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{OF}$ which reacted with 8 mmol $\text{CFC}_1\text{:CFC}_1$ to afford 53% $\text{FSO}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{OCFC}_1\text{CF}_2\text{C}_1$ .			
IC	ICM C07C309-78			
CC	23-11 (Aliphatic Compounds)			
IT	74-85-1, Ethylene, reactions 75-01-4, Chloroethylene, reactions 79-38-9, 2 Chloro 1 1 2 trifluoroethylene 540-59-0, 1 2 Dichloroethylene 598-88-9, 1 2 Dichloro 1 2 difluoroethylene 677-67-8 697-18-7 773-15-9 89413-95-6 89413-97-8			
	RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of perfluorosulfonylalkyl hypofluorites from perfluorosulfonylalkanoyl fluorides)			
IT	115784-53-7P 144728-64-3P 496922-45-3P 496922-46-4P 496922-47-5P 496922-48-6P 496922-49-7P 496922-50-0P 496922-51-1P 496922-52-2P 496922-54-4P 496922-55-5P			
	RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of perfluorosulfonylalkyl hypofluorites from perfluorosulfonylalkanoyl fluorides)			
IT	598-88-9, 1 2 Dichloro 1 2 difluoroethylene 677-67-8			
	RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of perfluorosulfonylalkyl hypofluorites from perfluorosulfonylalkanoyl fluorides)			
RN	598-88-9 CAPLUS			
CN	Ethene, 1,2-dichloro-1,2-difluoro- (9CI) (CA INDEX NAME)			



RN 677-67-8 CAPLUS  
 CN Acetyl fluoride, difluoro(fluorosulfonyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

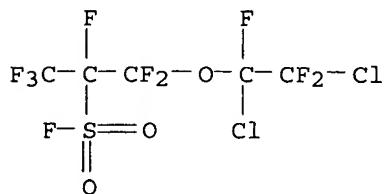


IT 144728-64-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of perfluorosulfonylalkyl hypofluorites from perfluorosulfonylalkanoyl fluorides)

RN 144728-64-3 CAPLUS

CN 2-Propanesulfonyl fluoride, 1-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



L46 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2002:615562 CAPLUS  
 DOCUMENT NUMBER: 137:169968  
 TITLE: Manufacture of perfluorovinyl ether monomer having sulfonamide group and its use for solid electrolyte membrane  
 INVENTOR(S): Ikeda, Masanori; Hoshi, Nobuto; Uematsu, Nobuyuki; Koga, Takehiro  
 PATENT ASSIGNEE(S): Asahi Kasei Kabushiki Kaisha, Japan  
 SOURCE: PCT Int. Appl., 215 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002062749	A1	20020815	WO 2002-JP854	20020201
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1359142	A1	20031105	EP 2002-711282	20020201
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1500075	A	20040526	CN 2002-807780	20020201
US 2004122256	A1	20040624	US 2003-470802	20030801
PRIORITY APPLN. INFO.:			JP 2001-25018	A 20010201
			JP 2001-30955	A 20010207
			JP 2001-278418	A 20010913
			JP 2001-342172	A 20011107
			JP 2001-343780	A 20011108
			JP 2001-343931	A 20011108
			WO 2002-JP854	W 20020201

OTHER SOURCE(S): MARPAT 137:169968

AB A perfluorovinyl ether monomer represented by  $\text{CF}_2\text{CF}(\text{OCF}_2\text{CFCF}_3)\text{mO}(\text{CF}_2)\text{nSO}_2\text{NR}_1\text{R}_2$  (wherein m = 0-5 integer; n = 1-5 integer; R<sub>1</sub>, R<sub>2</sub> = H, C<sub>1-10</sub> (un)substituted hydrocarbyl, substituted silyl; R<sub>1</sub> and R<sub>2</sub> may be bonded to each other to form a ring) and its polymers are prepared and the polymer films are used as solid electrolyte membrane. Neutralization of  $\text{CF}_3\text{CF}(\text{COF})\text{OCF}_2\text{CF}_2\text{SO}_3\text{F}$  with Na<sub>2</sub>CO<sub>3</sub>, amidation with diethylamine and n-BuLi, and decarboxylation gave  $\text{CF}_2:\text{CFOCF}_2\text{CF}_2\text{SO}_3\text{NET}_2$ . Copolymer. of this monomer with tetrafluoroethylene and press molding at 250° gave a membrane useful for solid electrolyte.

IC ICM C07C311-24

ICS C07C303-36; C07F007-12; C08F214-26; C08F216-14; H01M008-02

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38, 52

IT 75549-02-9P 75718-06-8P 78010-39-6P 144728-59-6P

445293-56-1P 445293-57-2P 445293-58-3P 445293-59-4P 445293-60-7P  
445293-61-8P 446312-49-8P 446312-51-2P 446312-52-3P 446312-53-4P  
446312-54-5P 446312-55-6P 446312-56-7P 446312-57-8P 446312-58-9P  
446312-59-0P 446312-61-4P 446312-62-5P 446312-63-6P 446312-65-8P  
446312-68-1P 446312-69-2P 446312-70-5P 446312-71-6P 446312-72-7P  
446312-75-0P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(manufacture of perfluorovinyl ether monomer having sulfonamide group for preparation of solid electrolyte membrane)

IT 62-53-3, Aniline, reactions 75-64-9, tert-Butylamine, reactions  
109-89-7, Diethylamine, reactions 109-97-7, Pyrrole 124-40-3,  
Dimethylamine, reactions 288-32-4, Imidazole, reactions 999-97-3,  
Hexamethyldisilazane 1070-89-9, Sodium hexamethyldisilazide 4089-57-  
-0 4089-58-1 29514-94-1 77545-08-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of perfluorovinyl ether monomer having sulfonamide group for preparation of solid electrolyte membrane)

IT 78010-39-6P 144728-59-6P

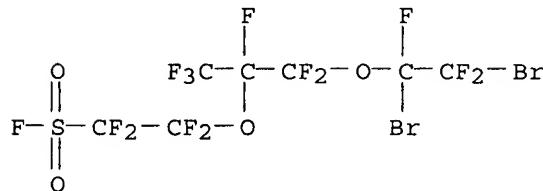
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP**

(Preparation); RACT (Reactant or reagent)

(manufacture of perfluorovinyl ether monomer having sulfonamide group for preparation of solid electrolyte membrane)

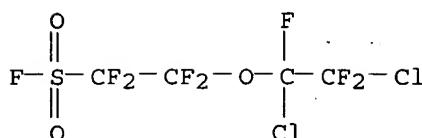
RN 78010-39-6 CAPLUS

CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



RN 144728-59-6 CAPLUS

CN Ethanesulfonyl fluoride, 2-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



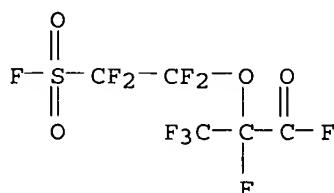
IT 4089-57-0 4089-58-1 77545-08-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of perfluorovinyl ether monomer having sulfonamide group for preparation of solid electrolyte membrane)

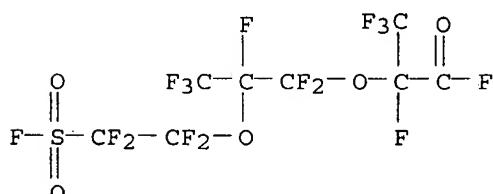
RN 4089-57-0 CAPLUS

CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]- (9CI) (CA INDEX NAME)



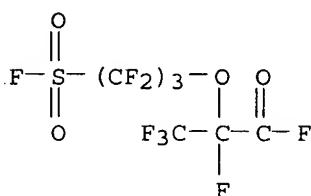
RN 4089-58-1 CAPLUS

CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]propoxy]- (9CI) (CA INDEX NAME)



RN 77545-08-5 CAPLUS

CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3-hexafluoro-3-(fluorosulfonyl)propoxy]- (9CI) (CA INDEX NAME)



**REFERENCE COUNT:**

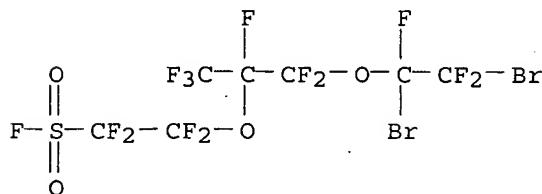
21

THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT.

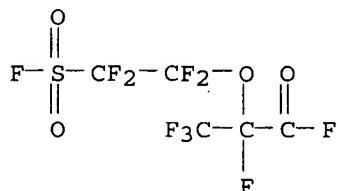
L46 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2002:607663 CAPLUS

DOCUMENT NUMBER: 137:155315  
 TITLE: One-step manufacture of sulfonic acid group-containing fluoropolymers  
 INVENTOR(S): Koga, Takehiro; Hoshi, Nobuto; Ikeda, Masanori  
 PATENT ASSIGNEE(S): Asahi Kasei Corporation, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

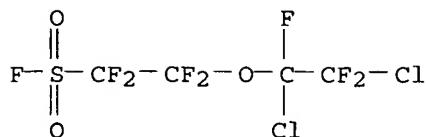
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002226514	A2	20020814	JP 2001-30967	20010207
PRIORITY APPLN. INFO.:			JP 2001-30967	20010207
AB	The fluoropolymers, useful for fuel cell electrolytes, are manufactured by acid treatment of polymers having repeating units $CF_2CF[(OCF_2CFCF_3)mO(CF_2)nSO_2NR_1R_2]$ ( $R_1, 2 = H, alkyl, aryl, aralkyl, silyl$ ; $R_1-R_2$ may form ring; $m = 0, 1; n = 2, 3$ ). Sulfonamide groups-containing fluoropolymers, having repeating units $CF_2CF[O(CF_2)nSO_2NR_1R_2]$ ( $R_1, 2, m, n = same as above$ ), are also claimed. Thus, a fluoropolymer film having a unit $CF_2CF[OCF_2CF(CF_3)OCF_2CF_2SO_2NET_2]$ , showing good antiblocking properties, was immersed in 3N $H_2SO_4$ at $130^\circ$ for 1.5 h to convert $SO_2NET_2$ to $SO_3H$ .			
IC	ICM C08F008-12 ICS C08F016-30; H01M008-02			
CC	35-8 (Chemistry of Synthetic High Polymers) Section cross-reference(s): 52			
IT	78010-39-6P 445293-56-1P 445293-59-4P 445293-60-7P RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (one-step manufacture of sulfonic acid group-containing fluoropolymers by acid hydrolysis of sulfonamide group-containing precursors)			
IT	4089-57-0 RL: RCT (Reactant); RACT (Reactant or reagent) (one-step manufacture of sulfonic acid group-containing fluoropolymers by acid hydrolysis of sulfonamide group-containing precursors)			
IT	78010-39-6P RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (one-step manufacture of sulfonic acid group-containing fluoropolymers by acid hydrolysis of sulfonamide group-containing precursors)			
RN	78010-39-6 CAPLUS			
CN	Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)			



IT 4089-57-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(one-step manufacture of sulfonic acid group-containing fluoropolymers by  
acid hydrolysis of sulfonamide group-containing precursors)  
RN 4089-57-0 CAPLUS  
CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,2-tetrafluoro-2-  
(fluorosulfonyl)ethoxy]- (9CI) (CA INDEX NAME)

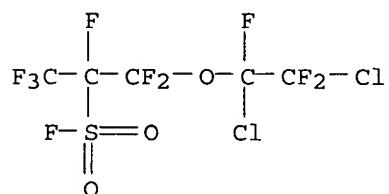


L46 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 1993:21927 CAPLUS  
 DOCUMENT NUMBER: 118:21927  
 TITLE: Novel routes to fluorinated ethers containing a  
 fluorosulfonyl group  
 AUTHOR(S): Storzer, Werner; DesMarteau, Darryl D.  
 CORPORATE SOURCE: H. L. Hunter Chem. Lab., Clemson Univ., Clemson, SC,  
 29634-1905, USA  
 SOURCE: Journal of Fluorine Chemistry (1992), 58(1), 59-69  
 CODEN: JFLCAR; ISSN: 0022-1139  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 118:21927  
 AB The chloroxy compds. ClOCF<sub>2</sub>CFXSO<sub>2</sub>F (X = F, CF<sub>3</sub>) have been reacted with  
 several simple olefins, e.g., CH<sub>2</sub>=CH<sub>2</sub>, to give ethers, e.g.,  
 ClCH<sub>2</sub>CHFOCF<sub>2</sub>CF<sub>2</sub>SO<sub>2</sub>F. In the case of unsym. olefins the reaction mainly  
 follows an electrophilic cis addition with the pos. polarized chlorine adding  
 in a Markovnikov manner.  
 CC 23-12 (Aliphatic Compounds)  
 IT 22675-67-8P 73605-98-8P 73606-00-5P 73606-02-7P 73606-04-9P  
 73606-06-1P 83865-25-2P 85720-80-5P 95616-32-3P 144728-56-3P  
 144728-57-4P 144728-58-5P 144728-59-6P 144728-60-9P  
 144728-61-0P 144728-62-1P 144728-63-2P 144728-64-3P  
 144728-65-4P 144728-66-5P 144978-10-9P 144978-11-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 75-02-5, Fluoroethylene 75-38-7, 1,1-Difluoroethene 79-38-9 116-15-4  
 311-81-9 359-11-5 381-71-5 1630-77-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with chloroxyhaloalkanesulfonyl fluorides)  
 IT 144728-59-6P 144728-64-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 144728-59-6 CAPLUS  
 CN Ethanesulfonyl fluoride, 2-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



RN 144728-64-3 CAPLUS

CN 2-Propanesulfonyl fluoride, 1-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



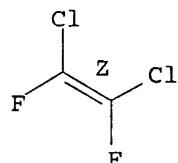
IT 311-81-9 381-71-5

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with chloroxyhaloalkanesulfonyl fluorides)

RN 311-81-9 CAPLUS

CN Ethene, 1,2-dichloro-1,2-difluoro-, (1Z)- (9CI) (CA INDEX NAME)

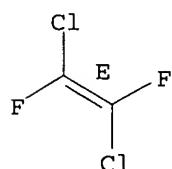
Double bond geometry as shown.



RN 381-71-5 CAPLUS

CN Ethene, 1,2-dichloro-1,2-difluoro-, (1E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L46 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1982:617423 CAPLUS

DOCUMENT NUMBER: 97:217423

TITLE: Solutions of sulfonyl fluorides and fluoropolymers

INVENTOR(S): Silva, Raimund H.; Resnick, Paul R.; Smith, Roger A.

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA

SOURCE: U.S., 10 pp. Cont.-in-part of U.S. Ser. No. 79,173, abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 3  
PATENT INFORMATION:

**PATENT INFORMATION:**

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4348310	A	19820907	US 1980-176595	19800808
JP 56050947	A2	19810508	JP 1980-131781	19800924
FR 2465753	A1	19810327	FR 1980-20590	19800925
FR 2465753	B1	19840427		
GB 2066824	A	19810715	GB 1980-30900	19800925
GB 2066824	B2	19830824		
US 4414280	A	19831108	US 1981-327062	19811203
US 4446269	A	19840501	US 1982-354194	19820303
PRIORITY APPLN. INFO.:			US 1979-79173	A2 19790926
			US 1980-176595	A 19800808

OTHER SOURCE(S) : MARPAT 97:217423

AB Solvents for fluoropolymers useful in casting reverse osmosis membranes have the composition CF<sub>2</sub>XCFXO[CF<sub>2</sub>C(CF<sub>3</sub>)FO]<sub>n</sub>(CF<sub>2</sub>)<sub>m</sub>Y (X = halogen; n = 0, 1; m = 1-3; Y = CO<sub>2</sub>Me, SO<sub>2</sub>F). Thus, 3276.1 g perfluoro[2-(2-fluorosulfonylethoxy)propyl vinyl ether] [16090-14-5] was chlorinated to give 2533.8g perfluoro[2-(2-fluorosulfonylethoxy)propyl-1,2-dichloroethyl ether] (I) [68860-43-5]. perfluoro[2-(2-fluorosulfonylethoxy-2-trifluoromethylethyl)vinyl ether-tetrafluoroethylene copolymer [26654-97-7] (2 G) was dissolved in 45 g I, and 5 mL solution was cast to give a film which was dried at 80°/300 mm. The film was hydrolyzed with 28% NaOH at 80° to give a membrane which was tested in 0.3% NaCl in a hyperfiltration cell. The water flux d. at 5700 KPa was 1.872 + 10<sup>-6</sup> m/s, and the salt rejection was 82.6%.

IC C08K005-42; C08K005-10

INCL 524167000

CC 37-6 (Plastics Manufacture and Processing)

IT 4089-58-1

RL: RCT (Reactant); RACT (Reactant or reagent)  
(fluorination of)

IT 69116-73-0P 78010-39-6P

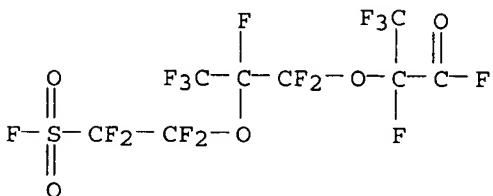
RL: PREP (Preparation)  
(preparation of)

IT 4089-58-1

RL: RCT (Reactant); RACT (Reactant or reagent)  
(fluorination of)

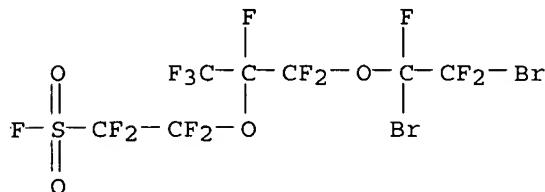
RN 4089-58-1 CAPLUS

CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]propoxy]- (9CI) (CA INDEX NAME)



IT 78010-39-6P

RL: PREP (Preparation)  
 (preparation of)  
 RN 78010-39-6 CAPLUS  
 CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



L46 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 1981:605062 CAPLUS  
 DOCUMENT NUMBER: 95:205062  
 TITLE: Solutions of copolymers of perfluoroethylene and a fluorosulfonated or carboxylated vinyl monomer in a saturated perhalogenated liquid  
 INVENTOR(S): Silva, Raimund Heinrich; Resnick, Paul Raphael; Smith, Roger Alton  
 PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA  
 SOURCE: Fr. Demande, 33 pp.  
 CODEN: FRXXBL  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2465753	A1	19810327	FR 1980-20590	19800925
FR 2465753	B1	19840427		
US 4348310	A	19820907	US 1980-176595	19800808
PRIORITY APPLN. INFO.:			US 1979-79173	A 19790926
			US 1980-176595	A 19800808

AB ClCF2CC1FOCF2CF(CF3)OCF2CF2SO2F (I) [68860-43-5], ClCF2CC1FOCF2CF(CF3)OCF2CF2CO2Me [78010-35-2], FSO2CF2CF2OCF(CF3)CF2OCF(CF3)SO2F [78010-40-9], and 19 similar compds. are used as solvents for copolymers of F2C:CF2 and F2C:CFOCF2CF(CF3)OCF2CF2CO2Me or F2C:CFOCF2CF(CF3)OCF2CF2SO2F (II). The solns. are useful for the preparation and repair of membranes, for coating catalyst supports in the preparation of catalyst, etc. Thus, a solution of 2 g F2C:CF2-II copolymer [26654-97-7] in 45 g I was cast to prepare a membrane. The membrane was hydrolyzed with aqueous NaOH at 80° to prepare an ultrafiltration membrane which gave 82.6% rejection of NaCl during filtration.

IC C08F214-26; C08F002-06; B01D013-00; B01J035-00

CC 37-1 (Plastics Fabrication and Uses)

IT 4089-58-1

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (decarbonylation of)

IT 27744-59-8P 78010-36-3P 78010-39-6P

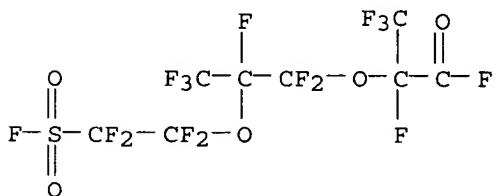
RL: SPN (Synthetic preparation); PREP (Preparation)

IT 677-67-8 (preparation of)  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with tetrafluoroethylene)

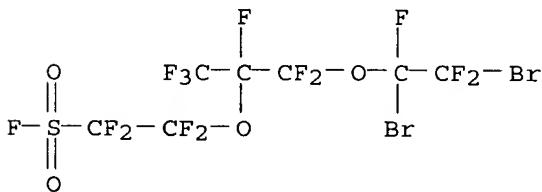
IT 4089-58-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(decarbonylation of)

RN 4089-58-1 CAPLUS

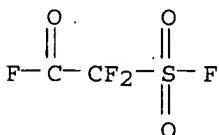
CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]propoxy]- (9CI) (CA INDEX NAME)



IT 78010-39-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 78010-39-6 CAPLUS  
CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



IT 677-67-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with tetrafluoroethylene)  
RN 677-67-8 CAPLUS  
CN Acetyl fluoride, difluoro(fluorosulfonyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX  
NAME)



```
=> file casreact
FILE 'CASREACT' ENTERED AT 11:42:52 ON 27 FEB 2006
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## REACTION SEARCH

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FILE CONTENT:1840 - 26 Feb 2006 VOL 144 ISS 9

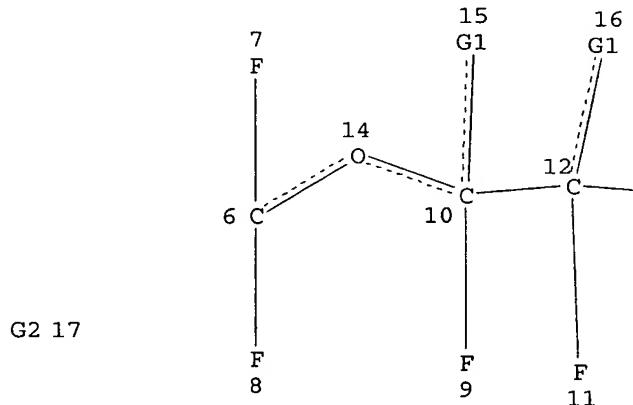
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Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d stat que L28  
L7 STR  
Cl 20Br 21



Page 1-A

— F 13

Page 1-B



Page 2-A

VAR G1=20/21

VAR G2=5/14

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DEFAULT ECLEVEL IS LIMITED

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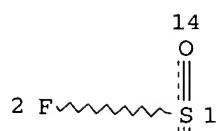
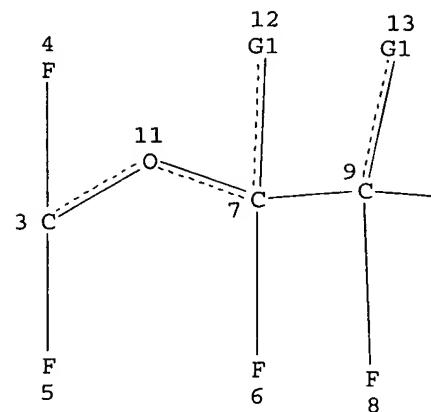
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NUMBER OF NODES IS 21

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L13			STR			

Cl 16 Br 17



Page 1-A

— F 10

Page 1-B

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 O  
 15

Page 2-A

VAR G1=16/17

NODE ATTRIBUTES:

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NSPEC	IS C	AT	3
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DEFAULT MLEVEL IS ATOM

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 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

L15 6 SEA FILE=REGISTRY SUB=L11 SSS FUL L13  
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NODE ATTRIBUTES:

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 NSPEC IS C AT 2  
 NSPEC IS C AT 3  
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DEFAULT MLEVEL IS ATOM

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

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STEREO ATTRIBUTES: NONE

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 L28 1 SEA FILE=CASREACT ABB=ON PLU=ON L19/RRT (L) L15/PRO

=> d ibib abs hit L28 1

L28 ANSWER 1 OF 1 CASREACT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 141:260266 CASREACT

TITLE: Process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes

INVENTOR(S): Tortelli, Vito; Calini, Pierangelo; Millefanti, Stefano

PATENT ASSIGNEE(S): Solvay Solexis S.p.A., Italy

SOURCE: Eur. Pat. Appl., 8 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

NOTE:

*Casreact results  
 not printed with  
 author search,  
 though this is  
 author's work.*

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1457484	A1	20040915	EP 2004-4344	20040226
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004269535	A2	20040930	JP 2004-65994	20040309
US 2004199009	A1	20041007	US 2004-795995	20040310
CN 1539818	A	20041027	CN 2004-10033085	20040311

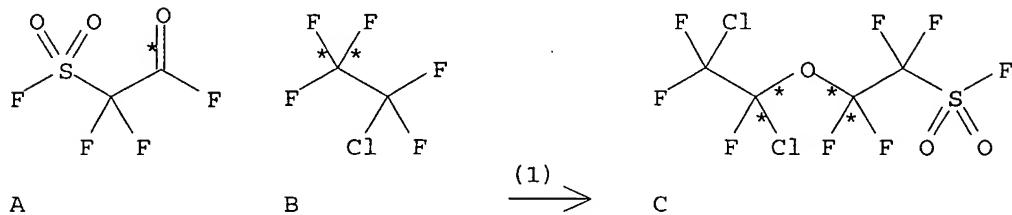
PRIORITY APPLN. INFO.: IT 2003-MI444 20030311

OTHER SOURCE(S): MARPAT 141:260266

AB A process for preparing (per)fluorohalogen ethers containing the sulfonyl fluoride group  $\text{FSO}_2\text{RCF}_2\text{OCFCA}_1\text{F}_2$  [A,  $\text{A}_1 = \text{Cl, Br}$ ; R = (per)fluorinated optionally containing one or more oxygen atoms] is described which comprises the reaction of acyl fluorides  $\text{FSO}_2\text{RCOF}$  in the liquid phase with elemental fluorine and with olefinic compds.  $\text{CAF:CA}_1\text{F}$  at  $-120^\circ$  to  $-20^\circ$ , optionally in the presence of a solvent inert under the reaction conditions.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(1) OF 1 A + B ==> C



RX(1) RCT A 677-67-8, B 76-15-3  
 PRO C 144728-59-6  
 SOL 76-15-3 Ethane, chloropentafluoro-  
 CON SUBSTAGE(2) 3 hours